

**** KEEP FOR FUTURE REFERENCE ****

GENERAL INFORMATION FOR BIOLOGICAL SCIENCES BIOG 1103

BioG 1103-1104 is a course designed to give you laboratory experience with major biological phenomena in order to support an understanding of the important concepts, principles, and theories of modern biology. A second objective of the laboratory course is to help you gain expertise with the methods used by biologists to construct new knowledge. During the first semester, you will be exposed to basic concepts, research methods, including laboratory and data transformation techniques, and instrumentation in the areas of biochemistry, physiology, morphology, and behavior.

Note: A lab this semester will involve you in dissection of a frog. For those students who object to animal dissection, alternative, web-based materials are available for study. However, testing will involve identification of important structures in real organisms.

COURSE STAFF - the following can be reached at office phones: 255-2031 or 255-3007.

Dr. Kuei-Chiu Chen, Laboratory Director	1130 Comstock Hall	*Home ph: 277-0294
Dr. Laurel Hester, Assistant Laboratory Director	1132 Comstock Hall	*Home ph: 277-0715
Ms. Martha Lyon, Laboratory Coordinator	1105 Comstock Hall	Office ph: 255-4409
Mr. Lin Davidson, Assistant Laboratory Coordinator	1128 Comstock Hall	Office ph: 255-1305
Mr. Troy Richards, Assistant Laboratory Coordinator	1128 Comstock Hall	Office ph: 255-1305
Ms. Louise Lattin, Course Coordinator	1140 Comstock Hall	Office ph: 255-2031
Lab Instructors	1122 Comstock Hall	Office ph: 255-3094

*Emergencies only, please!

COURSE ORGANIZATION

The course administration and laboratories are located in Comstock Hall. Students participate in one three-hour laboratory per week. Occasional lectures given during the BioG 1101 lecture periods relate directly to the laboratories. Several web-based assignments must be completed during the semester.

LABORATORY TEXTBOOK

The book *Investigative Biology - a Laboratory Text* (Chen and Hester 2009-10) is the required textbook for BioG 1103-1104. You will have reading assignments for some laboratories in the textbook for BioG 1101-1102, *Biology*, 8th edition (Campbell et al.). Both books are available at the Campus bookstore. Copies of both books are on reserve at Mann Library.

GRADING

The first-semester grading schedule is presented below along with a detailed description of each grade component.

<u>Component</u>	<u>Percent of Grade</u>
Practical Exam	26
Lab Midterm Exams	23
Midterm 1	10
Midterm 2	13
Scientific Process Assignments	25
Orientation Behavior Poster (First Submission)	9
Orientation Behavior Poster (Final Submission)	11
Abstract	4
Poster Session	1

Worksheets and Quizzes		22-23
Microscopy	2	
Descriptive Statistics	2	
Primary Literature	2	
Scientific Writing	2	
Osmosis/Statistics	5	
Phylogeny	2	
Frog Anatomy/Physiology	3	
Pre-lab Quizzes	4-5	
Lab Instructor Subjective Evaluation		3-4

Practical Examination

The laboratory practical exam will be administered during the week of 30 November 2009 in your regularly scheduled lab. It will be designed to reflect major objectives of the course and will test material presented in laboratory, in computer tutorial assignments on statistics, and in lab-related lectures. Conscientiously answering all the questions asked in the lab text will help you to prepare well for this exam. Appendix 4 in *Investigative Biology* includes the Fall 2008 practical exam and answers.

Laboratory Midterms

Two midterms (see GRADING section) are scheduled to occur in lab during the weeks of 28 September, and 9 November. Each midterm will test material covered in preceding laboratories, lab lectures and related topics in computer tutorials.

Scientific Writing and Poster Preparation Exercises

Part of your work in this course will give you experience with scientific writing and poster development. There will be a cost for printing the final draft of the poster as your group assignment. Course-wide deadlines for these assignments are listed in the BioG 1101-1103 course calendar. Your instructor will provide detailed requirements.

Worksheets and Pre-lab Quizzes

To help you summarize your experiences in certain labs and give you additional experience with literature research, scientific writing and statistical testing, you are expected to complete seven worksheets associated with laboratories you will do. Deadlines for these worksheets are included in the BioG 1101-1103 course calendar. To help prepare you for labs, a minimum of four 10-minute quizzes based on prelab questions and assigned readings will be administered throughout the semester.

Lab Instructor's Subjective Evaluation

Your lab instructor's evaluation will reflect her/his subjective estimate of your working habits, collaborative attitude, and lab techniques, etc.

Final Grade Determination

The final letter grade is determined based on a student's overall performance in relation to the mean of the two combined labs taught by the same lab instructor. A student has to have a numerical grade on or above the mean to receive a grade of B- or better. The standard deviation and gaps in percentage distribution will determine the break points between letter grades. Because of this "curve" standard, a high numerical grade, for example 90%, does not directly translate to an A-, and a low numerical grade does not necessarily equate a low letter grade.

COURSE POLICIES & LOGISTICS

1. Eligibility. To take BioG 1103, you must be simultaneously enrolled in BioG 1101, unless you received an advanced placement biology score of 4 or 5 or have been given permission by Dr. Kuei-Chiu Chen or Dr. Laurel Hester.
2. Incompletes. These are generally reserved for people who experience a prolonged illness, which prevents them from completing the assigned work. If you feel that you deserve an incomplete, your lab instructor must be informed before 23 November 2009 (one week before the lab practical). The instructor will then arrange a meeting among the course administrators, you, and the instructor. Poor grades or tardiness in completing assigned work do not justify the granting of an incomplete.
3. Attendance and Temporary Lab Changes. If you need to miss a lab, you must contact your TA on or before the day you miss the lab. A valid reason (sickness, religious holidays, or conflicts with other academic activities) will be required before authorization for a temporary lab change is made. If your TA accepts your reason for missing lab, the TA must contact the office before a makeup lab can be approved. The office staff will assign a makeup lab and provide you with a Temporary Lab Change Form for you to give to the temporary instructor. *You must have this form to be allowed in a makeup lab.* The temporary instructor will sign and return the form to the course office. The office staff will then forward it to your regular instructor as evidence that you completed the laboratory.
4. Any Course-related Problems. If you have any course-related problems, you must first discuss them with your lab instructor. If, after this meeting you are not satisfied with the decisions reached, a meeting among you, your instructor, and the course administrators will be arranged.
5. Copies of Assignments. You are expected to maintain a photocopy of any assignment submitted to your TA for grading. If the assignment should become lost, you are responsible for its replacement.
6. Examination. There will be only one course wide examination, the lab practical. If for valid reasons you are unable to take the test during your normal lab time, you must make prior arrangements with Dr. Kuei-Chiu Chen or Dr. Laurel Hester.
7. Plagiarism. According to the Cornell University *Policy Notebook for the Cornell Community*, a student's submission of work for academic credit indicates that the work is the student's own. All outside assistance should be acknowledged, and the student's academic position truthfully reported at all times. In other words, a student shall be guilty of violating the code of academic integrity if she/he knowingly represents the work of others as her/his own. Be certain to reference ideas and writings of others properly in the papers you produce for this course. This includes written material or ideas taken from the lab text. Refer to the Scientific Writing Appendix of the lab text for further information. Writing/Poster assignments must be your own work (or in the case of the poster your group's).
8. Lost and Found. Items left in lab will be kept in 1140 Comstock Hall.

PREPARATION FOR LABORATORIES

Your success in the lab course depends on your preparation for each new lab. A thorough reading of the relevant lab chapter should adequately prepare you for each lab session. It cannot be too strongly emphasized that all assigned prior reading and active participation are essential to your success in this course.

REFERENCES AND SUGGESTED READINGS

The last section of each lab text chapter is a selected bibliography of articles, books and websites useful for helping you to understand the lab text better, and as reference sources for interpreting results from your investigative studies. Use the index wisely in identifying any pages of interest to you in the larger works.

COMPUTER ASSIGNMENTS AND ARRANGEMENTS

To facilitate your learning of important concepts, we make available several web-based resources that you will be using throughout the year. Information about the resources used during the fall semester, assignments, and dates are presented below.

BioG 1101-1104 Website

The course website located at URL "<http://biog-1101-1104.bio.cornell.edu>" contains information on the course staff, assignments, downloadable PDF versions of course handouts, and other useful resources. The laboratory course pages include interactive tutorials to help you review certain labs that you have completed.

Stat-Tutor—This software consists of a series of web-based tutorials designed to introduce you to the major concepts of statistics that are important to biology. Stat-Tutor is available from the main page of the course website through the link of Laboratory Course Information. You can access these web materials using any computer with an Internet connection. If you have any difficulty with lab tutorials, please email the course staff at biology_1101@cornell.edu.

Assignments:

<u>Tutorial Title</u>	<u>Completion Date</u>	<u>Reading Assignments*</u>
Intro. to Statistics Descriptive Statistics	By Week 3	A29-37
Statistical Testing I Statistical Testing II Wilcoxon Test Tutorial	By Week 5	A35-A44
Spearman Correlation Test Tutorial	By Week 11	A44-A46

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